

HOW AGILE, DEVOPS AND THE CLOUD  
IMPACT SERVICE MANAGEMENT

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## 1. Summary

This paper provides a synopsis of the impact of Agile, DevOps, the Cloud, new ways of working and new technology on established Service Management processes. It shows what to look out for as your organisation reacts and changes. It also explains how best to accommodate these new parameters within a Service Management framework.

You will learn about the major impacts on specific areas of Service Management as Agile delivery, DevOps and automation become more widespread both within yours and other organisations.

## 2. The changing world of IT

Agile, DevOps and the Cloud are changing the world of IT as they become embedded in delivery. Organisations need to think carefully about how and where they are used, balancing the benefits of agility and speed to market against possible risk.

A model for consideration is Bimodal IT. This approach caters for two speeds of delivery, a traditional IT one for core business systems and critical data, where risk minimisation is key, and another more agile one for areas where speed and agility are the most important factors, such as new product development. It is highly likely that if you are working in an established organisation that both modes will have merit and need to live hand-in-hand.

## 3. Impact on Service Management

In the content below you will find an analysis of the impact of the paradigm shift of Agile, DevOps and the Cloud on key areas of the existing Service Management framework and how processes will need to adapt to meet the demands of this brave new world.

### ITIL Service Strategy

#### **Financial Management for IT services**

Financial Management is essential for success in the IT world, without a valid business case or clear understanding of the ROI (return on investment) on delivery, any investment or cost has an uncertain outcome. This becomes even more critical when systems are not under your control or the delivery is rapid in an agile environment. Cloud costs need to be actively managed, the business case and Agile project costs analysed against projected costs and revenues need to be reviewed and updated on an incremental basis aligned to Agile project delivery.

### ITIL Service Design

#### **Service Level Management**

Service Levels become increasingly important as more systems are moved to the Cloud. Control over systems is ceded to the Cloud supplier and local IT has little ability to oversee the systems below the application level. Whilst the content of SLAs may not change, it is important for you to have real time views of system performance and quality SLA reports in order to engender trust in the supplier. In the DevOps world Service Levels linked to development as well as operations must be considered.

### **Availability and Capacity Management**

The ability to manage and rapidly modify Availability and Capacity is of key importance in relation both to Agile and the Cloud. Availability is simply a matter of what you want to pay and in a Cloud environment Capacity can usually be increased at speed which is useful to Agile delivery, but this comes at a cost so it is crucial to understand both Capacity and Availability requirements and to have a real time view of usage, peaks and troughs and the associated costs of usage. The management of both Availability and Capacity becomes the responsibility of the vendor, but usage management is your responsibility.

### **IT Service Continuity Management**

It is important that continuity is considered as part of Agile delivery, thought must be given to dependencies and criticality to service even during the most rapid delivery cycle, it becomes part of the duty of the DevOps team to ensure that continuity is not impacted by releases. The Cloud can be a useful tool for DR solutions assisting Service Continuity.

### **Security Management**

Security is the key concern of customers considering utilising the Cloud, the most important factor for you as a customer is to formulate your own Cloud security policy considering both regulatory issues and data security. In the DevOps world security must be intrinsic at every stage of development. It is important to note that Cloud suppliers put in stringent security controls that a business is unlikely to be able to replicate on their own without huge cost.

### **Supplier Management**

Having a coherent strategy for Supplier Management and a clear understanding of requirements and business cases is key to both Agile and the Cloud. For instance, whilst many consider the Cloud for cost reasons, in fact the Cloud can be more expensive than traditional IT, its true value lies in speed to market, rapid deployment and flexibility. In addition, as your supplier ecosystem becomes more complicated and multivendor supplier management becomes even more important.

### **ITIL Service Transition**

#### **Transition Planning and Support**

Transition Planning and Support requires a paradigm shift to adjust to an Agile model, away from a sequential gated approach towards a methodology that aligns with sprints and rapid deployments, this can take the form of a framework that breaks down documentation and approvals into segments associated with each sprint. The approach becomes one of trust and verify rather than check and agree.

#### **Change Management**

Change Management will need to adapt to take account of a continuous, Agile development cycle. Change should no longer be seen as separate from development but as an essential part of it, so Changes generated from Incident and Problem Management will be part of the developers' backlog. As requirement and risk analysis is inherent in the Agile Development prerequisites, this element of Change Management will become subsumed in development utilising rapid change models and

federating change accountability. This should not be seen as a threat to those working in operational change as it will give them the opportunity to broaden their horizons.

### **Release & Deployment Management**

The impact of Agile on Release & Deployment is primarily that the need for long term planning and bundling goes away to be replaced by more frequent and less complex releases, this does not obviate the necessity for planning build and test, and using different environments for the various types of testing. The automation of testing should go hand-in-hand with Agile delivery or rapid releases becomes very difficult.

### **Service Asset & Configuration Management**

The biggest impact on SACM is the increasing prevalence of Cloud based solutions, the idea of a single CMDB becomes outmoded and far too limited to take account of the need for organisations to control and understand their assets, the change here should be to the federated CMDB model, relational databases taking their data from remote and disparate sources to form a single version of the truth.

### **Service Validation and Testing**

An agile approach does not obviate the need for testing, in fact DevOps introduces the concept of “continuous testing” throughout the delivery lifecycle. This testing must include Service Management considerations as well as functional ones. The DevOps approach actually delivers greater confidence in this area as there is no barrier between operations and development. The use of automation and collaboration tools will greatly assist in this area. In a Bimodal environment, there must be clear and consistent communication between the more traditional IT functions and DevOps.

## **ITIL Service Operation**

### **Event Management**

Event Management increases in importance in an Agile model, the rapid response to active monitoring alerts and subsequent self-healing meets the needs of agile systems. In Cloud based systems this becomes the responsibility of the Cloud provider, the customer will be more concerned with Vendor Management and reporting confirming compliance with Service Levels.

### **Incident Management**

Incident Management is impacted by the rapid developments associated with Agile and continuous development and the increasing automation of delivery, the practice of users calling in issues to a reactive Service Desk will decrease where agility is key, making Event Management and Self-Healing much more prevalent. Because DevOps will manage code as well as developing it, they will be able to fix incidents as part of the sprint. The important remaining area of true Incident Management will be in Major Incident Management of critical issues which will be closely associated with DevOps and fixed in an agile release cycle.

### **Problem Management**

Problem Management will become much less of an analytical study of historical data and will become embedded into the Agile lifecycle, Problems will become “stories” and will be detected by automated monitoring rather than being created from Incidents and trend analysis. This will not preclude the elimination of probable causes of Problems but will speed up the results of such detective work being implemented.

### **ITIL Continual Service Improvement**

The DevOps approach can provide benefits for CSI, with developers and operations working so closely together that it creates opportunities for identifying improvements across the delivery lifecycle. CSI becomes part of the delivery lifecycle and inherent in the development and maintenance of systems rather than a separate process.

## **4. Key takeaways**

DevOps, Agile and the Cloud all provide opportunities and challenges to organisations. The key takeaways from this paper are that in order to adapt to the Brave New World you will need to:

- Consider the impact of Agile and the Cloud on all Service Management processes
- Adopt a Bimodal approach, retaining traditional IT for the most critical systems and utilising an Agile, DevOps approach where speed is of the essence and adds business value
- Adapt existing processes to dovetail with the Agile development cycle, where appropriate
- Take advantage of automation to increase the speed of response to events
- Treat fixes and changes as part of the development backlog
- Never lose sight of the business reasons for any development or change
- Ensure costs and suppliers are managed effectively.

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